

OIL AND GAS DEVELOPMENT COMPANY LIMITED
Chanda LPG Plant

SCHEDULE OF REQUIREMENT

TENDER ENQUIRY # TE/COF/ATA/02/2019

Technical services for Preventive Maintenance of 03 Nos. Ajax Integral-Engine Compressors during ATA-2019 at Chanda LPG Plant.

S#	<u>Description</u>	<u>Reference #</u>	<u>Rate</u>	<u>Total rate (inclusive of all Taxes)</u>	<u>Deviation</u>
1	As per scope of work given in tender documents				

Note. Separate rate to be quoted for each and every activity as mentioned in scope of work.

TERMS & CONDITIONS FOR ATA-2019 OF CHANDA LPG PLANT

GENERAL:

1. Technical services are required for Annual Maintenance of 03 No's Ajax integral-engine compressors during annual turn around (ATA-19) of Chanda Plant for an estimated period of 11 days tentatively schedule from 01-08-2019 to 11-08-2019; however the schedule and duration of shut down may be changed.
2. **Bids are required in PKR against each activity as mentioned in the scope of work. Detail of jobs (scope of work) is elaborated in tender documents.**
3. In case of no submission of bid bond, bid will be rejected.
4. Working hours for the day will be considered 10 hours/day excluding lunch break. Sunday/holiday will be considered as normal working day.
5. Most of the jobs will be carried out in the day shift however limited tasks will be carried in the night shift also.
6. Payment will be made as per actual work done through cross cheque after completion of the job being verified by OGDCL rep. at site.
7. Skilled manpower should be well experienced in their respective crafts.
8. Management of the plant reserves the right to terminate the services of any hired staff at any time without any justification.
9. HSEQ Rules & Regulations will be strictly observed.
10. **All the participating companies / manpower should have an experience of working on Ajax compressors. (reference should be provided)**
11. Jobs will be carried out as per priority set by OGDCL supervisors and contractor will utilize all its resources to complete the jobs as per time frame given by OGDCL.
12. OGDCL may delete, add or change any type of activity given in the scope of work.
13. The technical manpower must be skilled, having at least five years' experience in respective trade. Skilled manpower will be interviewed by OGDCL professionals in all disciplines, if deemed necessary and contractor should arrange the interview at their premises. The detailed CV's of direct manpower/supervisors is mandatory.
14. Use of mobile phone and camera is prohibited in the plant premises.
15. Any required technical clarification/detail regarding scope of work should be cleared before submission of bid. No change in substance of bid will be entertained after bid submission date.

CONTRACTOR RESPONSIBILITIES:

1. Site administration personnel with associated resources like computer, printers, photocopiers etc.
2. Provision of PPE (Safety helmet, Coverall, Safety shoes, Gloves, etc) of all kinds to hired crew.
3. CV's of all the skilled Personnel will be provided well before ATA. Evaluation of all the short listed skilled personnel will be carried out by Field personnel well before the ATA.
4. **All kind of tools required for the Maintenance of Ajax Integral-Engine Compressors.**
5. Security of all the Hired Crew.
6. Drinking Water, Boarding/ Lodging, refreshment to all the Crew.
7. Pick and drop from Plant to accommodation and back.
8. In case of any accident, medical treatment or compensation, whichever is applicable.
9. Electrical Supply Boards along with cables as per HSE standard.

OGDCL RESPONSIBILITIES:

1. Electricity for Lighting & Fan.
2. Spare parts will be provided by OGDCL.
3. Blinds & Spads for Isolation & Pressure Testing.
4. **Logistic support i.e. Cranes, Lifters & Rigging Tools.**
5. Nitrogen purging / leak test will be the responsibility of OGDCL but services for this job, will be provided by Contractor.

EQUIPMENT'S DETAIL & SCOPE OF WORK FOR MAINTENANCE OF 03 NO'S AJAX INTEGRAL-ENGINE COMPRESSORS.

There are 03 Ajax integral-engine compressors L.P, M.P and H.P installed at Chanda LPG plant. Annual Turn Around of Chanda LPG Plant is tentatively scheduled w.e.f **01-08-2019 to 11-08-2019**. Technical services for maintenance of 03 No's Ajax compressors are required during the period. Equipment's and scope of work is as under.

DETAIL OF EQUIPMENT:

A- LP COMPRESSOR (K-100)	
Engine Side:	Compressor Side:
Make: Cooper Ajax USA	Serial No: 099883
Model: DPC-140	Pressure: 3.5 psi to 50 psi
Serial No: 83813	No of Comp Cylinders: 01
Speed, rated RPM: 400	Comp Stroke: 11"
Rated BHP: 140 (Two Stroke Engine)	
No of Power Cylinder: 01	
Engine Bore & Stroke: 13.25" × 16"	
B- MP COMPRESSOR (K-101)	
Engine Side:	Compressor Side:
Make: Cooper Ajax USA	Sr. No: 11616
Model: DPC-600	Pressure: 50 PSI to 50 PSI
Sr. No: 84059	No. of Comp Cylinders: 02
Speed, Rated RPM: 400	Comp Stroke: 11"
Rated BHP: 600 (Two Stroke Engine)	
No. of Power Cylinder: 03	
Engine Bore & Stroke: 15"x16"	
C-H.P COMPRESSOR (K-102)	
Engine Side:	Compressor Side:
Make: Cooper Ajax USA	Sr. No: 11598
Model: DPC 600	Pressure: 250 PSI to 750 PSI
Sr. No: 84069	No. of Com Cylinder: 02
Speed Rated RPM: 400	Com Stroke: 11"
Rated BHP: 600 (Two Stroke Engine)	
No. of Power Cylinder: 03	
Engine Bore & Stroke: 15"x16"	

SCOPE OF WORK

1- Cooling System:

ACTIVITY	DESCRIPTION	REMARKS
Ajax301	Thoroughly clean all cooling water jackets for dirt accumulation.	
Ajax302	Inspect and replace worn cooling fan and water pump belt	
Ajax303	Inspect/ replace radiator fan shaft bearing (if required) and remove vibrations.	
Ajax304	Straightening & cleaning of cooler fins.	
Ajax305	Inspection/ cleaning of cooler tubes.	
Ajax306	Inspect/ repair of cooling water pump (if required).	
Ajax307	Pressure test of compressor side of MP and HP units.	
Ajax308	Greasing of all Bearings.	
Ajax309	Remove all leakages.	

2- Lubrication System:

ACTIVITY	DESCRIPTION	REMARKS
Ajax310	Clean and inspect force feed lubricators and replace worn Parts.	
Ajax311	Clean and inspect pre lube pump and replace worn parts.	
Ajax312	Rectify Level Float Valve operation (float to be arranged & replaced).	
Ajax313	Inspect and remove leakages in the lubrication system.	
Ajax314	Clean overhead lubricant tank and remove any leakages.	

3- Crankcase Assembly:

ACTIVITY	DESCRIPTION	REMARKS
Ajax315	Drain and flush Crankcase.	
Ajax316	Inspect/ replace crank pin bearings (if necessary) and adjust clearances. (Power & compressor piston)	
Ajax317	Inspect/ replace cross head pin bearing (if necessary) and adjust clearances. (Power & compressor piston)	
Ajax318	Inspect/ replace thrust bearings (if necessary) and adjust clearances.	
Ajax319	Inspect & repair/ replace crankshaft (if necessary).	
Ajax320	Inspect/ replace lay shaft gear & drive gear on crankshaft (if necessary).	
Ajax321	Clean breather caps on the crankcase.	
Ajax321A	Check and adjust sheaves Alignment	

4- Power Cylinder Assembly:

ACTIVITY	DESCRIPTION	REMARKS
Ajax322	Remove cylinder head, Inspect intake and exhaust ports and remove all carbon in ports.	
Ajax323	Check Compressor piston rod pressure packing.	
Ajax324	Inspect/ replace worn piston rings (if required) and thoroughly clean piston and ring grooves	
Ajax325	Inspect/ replace power cylinder Bodies (if required).	
Ajax326	Inspect/ replace piston and piston rod (if required).	

5- Compressor Cylinder Assembly:

ACTIVITY	DESCRIPTION	REMARKS
Ajax327	Check and replace compressor piston rod pressure packing if required	
Ajax328	Check and replace compressor variable pocket pressure packing. If required	
Ajax329	Inspect/ replace cylinder liners(HP Unit only)	
Ajax330	Inspect/ replace piston and piston rod (if required).	
Ajax331	Inspect/ replace worn piston rings (if required) and thoroughly clean piston and ring grooves.	
Ajax332	Inspect and, if necessary, replace suction and discharge valves.	
Ajax333	Inspect/ replace compressor cylinder body	
Ajax333A	Dismantling and reinstallation of both cylinder bodies and Mechanical cleaning of water jackets thereof(HP and LP Unit	

6- Fuel System:

ACTIVITY	DESCRIPTION	REMARKS
Ajax334	Check Fuel System and clean inlet Fuel Filter.	
Ajax335	Complete overhauling of fuel injection valves.	
Ajax336	Inspect/ replace hydraulic pumps (if required).	
Ajax337	Inspect/ replace hydraulic NRV's (if required).	
Ajax338	Remove leakages in the hydraulic system.	
Ajax339	Inspect/ replace tubes of hydraulic circuit (if required).	
Ajax340	Clean hydraulic storage bottle.	
Ajax341	Inspect/ replace driving Cams of hydraulic pumps (if required).	
Ajax342	Inspection of layshaft and driving Gears.	
Ajax343	Inspect the fuel intake manifold and remove leakages.	

7- Air Intake System:

ACTIVITY	DESCRIPTION	REMARKS
Ajax344	Inspect/clean air filters and replace if required	
Ajax345	inspect/Rebuild Reed valves if required	

8- Ignition System:

ACTIVITY	DESCRIPTION	REMARKS
Ajax346	Inspect/ replace spark plugs (if required).	
Ajax347	Inspect/ replace cables (if required).	
Ajax348	Inspect/ replace pick up coil (if required).	
Ajax349	Inspect/ replace ignition coil (if required).	
Ajax350	Inspect/ replace alternator (if required).	

9- Other Jobs:

ACTIVITY	DESCRIPTION	REMARKS
Ajax351	Proper Cleaning of Fly wheel.	
Ajax352	Complete cleaning of Compressor & skid after completion of job.	
Ajax353	Startup of Compressor after completion of job.	
Ajax354	Adjustment of Firing timing (if required).	
Ajax355	Load testing.	
Ajax356	Housekeeping of area after job completion.	